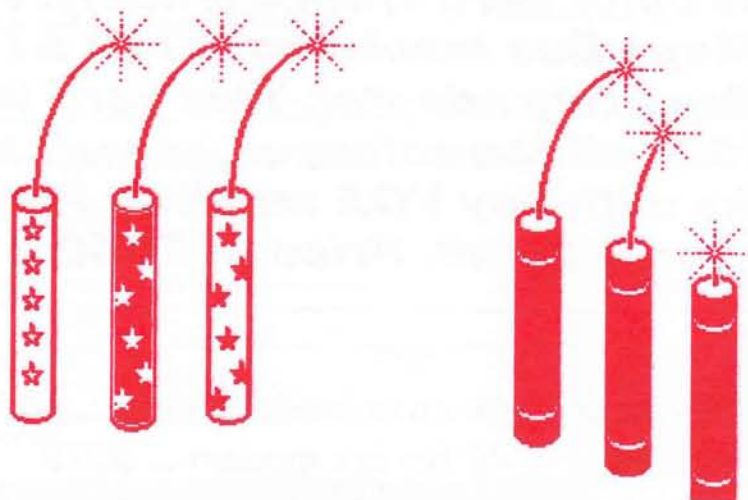


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JOURNAL

July, 1993

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Pounding on the 8-Bits

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July 1993

Things are starting to come together now - the drive works with MYDOS 4.5 and DOS 2.0 in single and dual density just fine. I have added a hack to use the RAM at \$D600 - \$D7FF so we have a well protected place to put our code and an OS hack that allows us to segment the 16 meg HD into 16 separate 1 meg drives. So, read on!

First to the IDE code additions. We were at the point where the code worked when SIO was run manually but failed on writes from DOS. I had traced the problem to the write command hanging the drive. Try as I may, the write command worked fine if done from the cartridge and failed with DOS. This is your typical roadblock when doing something like this - you just have to grind your way thru it. By trapping different instructions along the way (storing device status from \$D1A7), I discovered that after a write, the drive was busy when I entered the code for any subsequent command. And yet, when I ran a single write command from the ED/ASM cartridge, it was not busy afterwards.... ?? Eventually, it occurred to me that maybe I wasn't waiting long enough for the write command to complete. It seems obvious now, but the IDE drive has a buffer and I assumed that the write would be buffered just like a read. That is not the case. The drive must find the proper sector and write the data to the drive before it goes not busy again. This means that writes will be much slower than reads since the rotational delays will affect every write. This is confirmed by usage. The drive writes at about half the rate that it reads - still not bad considering how slow a floppy is on SIO.

The fix was to add the code in lines 390 thru 410. This is just a simple "wait until the drive is not busy" loop. After a write command, you will be waiting here for at least a few msec until the drive writes the data to the disk. This was essentially all that was needed to make the code from April run under DOS. There are a couple of other changes, however. The Status command now stores \$60 into \$2EA instead of \$00 so that MYDOS will recognize it as a DD drive. A Read command transfers either 128 or 256 bytes according to the value in \$308. Excess bytes are just discarded in lines 1080 thru 1120. A Write command will transfer 256 bytes on each sector, even if the SIO is set to 128 byte transfer. The excess bytes do no harm, so why worry about them?

So, we now have an IDE drive that works just like a really big floppy. Just format the drive from DOS and write DOS to it. Under MYDOS 4.5, set the drive as a High Capacity drive with 65,536 sectors / DD. This gives you 16 MB of storage. Or, you can format either SD or DD in DOS 2.0 for 88 KB / 192 KB of space. Either way, you use it just like any other drive plugged into D2:. Of course, just about any read or write takes only a second or so. Even those really big files seem to pop out in no time at all! Unfortunately you will begin to wish for a little different setup once you start actually using the drive..... First thing I did was try to run a few programs from it. Amazing how many folks step on the data in \$600! Time to move to someplace a little less frequented. How about a place nobody uses? Like \$D600 - \$D7FF? That does not even exist on a normal Atari - it should be a safe as you can get! OK, so how do we do this?

It takes a little soldering. Not too bad, though. Get your tools and a 74HC20 IC and you'll be done in 10 minutes. Bend out all the leads on the HC20 except 7 and 14. Cut off pins 3 and 11. Solder the HC on top of U16, a 74LS14. This connects ground (pin 7) and 5 volts (pin 14). Bend out pin 16 of U14, C060609, and solder a wire between it and pins 9,10,12, and 13 of the HC20. Bend out pins 7 and 9 of U18, a 74LS138, and connect them to pins 2 and 3 individually (7 to 2 and 9 to 3) of the HC20. Solder a wire between pin 8 and pins 4 and 5 of the HC20. Bend up pin 1 of U11, a 74LS375, and connect it to pin 6 of the HC20. You're finished! Take a look at locations \$D600 thru \$D7FF and you'll see RAM in there where there was nothing previously. This is where we'll put our code from now on!

As it stands, you must execute the RAMOS code to put the OS into RAM and then assemble IDE13.ASM into memory. Once loaded, you can reboot with the RESET key without losing your code. To enable the IDE code after a reboot just turn on the RAM OS by ANDing \$D301 with \$FE. At some point we can burn an EPROM and dispense with all the monkey motion.

First thing I did with my drive was to dump file after file on it. With 65,536 sectors, I could put half my disks on there!! Of course, after 64 files the disk was full..... even with 63000 free sectors. Hmmmmmmmm....

As you can imagine, having only 64 files to work with is something of a problem. This is why MYDOS has sub-directories. You are supposed to put files grouped together in their own directories. Never did care much for that kind of thing... Also, I need things like DOS 2.0 for AtariWriter and no DOS at all for things like PaperClip. Can't have a whole 16 meg drive used up by a 707 sector DOS! The solution is to allow for multiple segments in your drive - each segment is a standalone disk in itself. You could have any size and any number up to the capacity of your drive (currently 40 MB -- half of an 80 MB drive). I chose 1 meg segments as a reasonable size although I am leaning towards 256K now. Anyway, by hacking in a little OS code, I can utilize the control - F2 key combination to switch to a different segment of my IDE drive. Each time I hit cntl - F2 I jump up one "diskette". For example, I load GR9SHO (a GR.9 viewer) from the first disk segment and then switch to the graphics files on disk 3 by hitting cntl - F2 twice. Now, the drive has a disk full of pictures instead of utilities. Works great!

CS junior wins Microsoft award

Computer science junior Roy Goldman has been selected from among three outstanding Berkeley campus nominees to receive a \$10,000 Microsoft Technical Scholarship.

The Microsoft Corporation awards more than \$250,000 in scholarships at "schools that excel in computer science," the company said. The awards are open to students in EECS, applied math, and physics. They include the opportunity to interview for a paid summer internship at Microsoft.

A native of Anaheim, Goldman is an honors student with a 3.9 GPA, planning to double major in computer science and applied math. He currently works as a research assistant in CS.

Goldman began his computer career in classes for advanced elementary school students at the University of Denver. Hooked at 8 years old, he later began his own project: he developed and marketed Daisy-Dot III, a document processing system for Atari 8-bit computers now used around the world.

He hopes to pursue a Ph.D. in computer science.

The code for this is in line 1500. The ORA instruction sets the high order half of the sector byte to whatever is currently in location \$D700. The code at line 180 thru 250 patches the OS to increment \$D700 by \$10 every time you hit cntl - F2. This key combination will not normally conflict with your programs since the other Atari 8-bits don't have function keys and programs are usually written to be compatible. Now, aren't you glad you have a 1200XL? Little code to clear \$D700 at line 150 and we're done. I suppose a nice menu program would be better than a blind push-the-key routine like this, but what the heck - maybe next month.

So, check out the article on the lower left! This was printed in the Engineering News from the College of Engineering at Berkeley, March 1993. Recognize that guy? He is "our" guy, Roy Goldman!!

The IDE code:

```
0100 ;IDE13.ASM      6/25/93
0110 ;
0120 *=$C95B  POINT SIO TO IDE
0130 JSR $D600
0140 ;
0150 *=$D700  CLEAR FLAG STORAGE
0160 .BYTE $00,$00,$00,$00
0170 ;
0180 *=$FCB5  SELECT IDE SEGMENT
0190 CLC
0200 LDA $D700
0210 ADC #$10
0220 STA $D700
0230 NOP
0240 NOP
0250 LDA #$00
0260 ;
0270 *=$D600  IDE CODE
0280 LDA $0300
0290 CMP #$31
0300 BNE JMPTOSIO
0310 LDA $0301
0320 CMP #$02
0330 BEQ IDECODE
0340 ;
```

```

0350 JMPTOSIO
0360 JMP $E971
0370 ;
0380 IDECODE
0390 LPBZY LDA $D1A7
0400 AND #$80
0410 BNE LPBZY
0420 ;
0430 LDA $0302
0440 CMP #$53
0450 BEQ STATUSCMD
0460 CMP #$21
0470 BEQ FORMATCMD
0480 CMP #$22
0490 BEQ FORMATCMD
0500 CMP #$52
0510 BEQ READCMD
0520 CMP #$57
0530 BEQ WRTCMD
0540 CMP #$50
0550 BEQ WRTCMD
0560 CMP #$4E
0570 BEQ STATUSCMD
0580 ;
0590 CMDREJ
0600 LDA #$01
0610 STA $02EA
0620 LDA #$8B
0630 ;
0640 RETURN
0650 STA $0303
0660 TAY
0670 SEC
0680 RTS
0690 ;
0700 STATUSCMD
0710 LDA #$60
0720 STA $02EA
0730 STA $0308
0740 STA $0309
0750 ;
0760 CLRSTATUS
0770 LDA #$01
0780 BNE RETURN
0790 ;
0800 FORMATCMD
0810 LDA $0304
0820 STA $0032
0830 LDA $0305
0840 STA $0033
0850 LDA #$FF
0860 LDY #$00
0870 STA ($32),Y
0880 INY
0890 STA ($32),Y
0900 BNE STATUSCMD
0910 ;
0920 READCMD
0930 JSR SETREGS
0940 LDA #$20
0950 STA $D1A7

```

```

0960 LDY #$00
0970 LP1 LDA $D1A7
0980 AND #$80
0990 BNE LP1
1000 RDLP LDA $D1A7
1010 AND #$08
1020 BEQ RDLP
1030 LDA $D1A0
1040 STA ($32),Y
1050 INY
1060 CPY $308
1070 BNE RDLP
1080 ENDRD LDA $D1A0
1090 LDA $D1A7
1100 AND #$08
1110 BNE ENDRD
1120 BEQ CLRSTATUS
1130 ;
1140 WRTCMD
1150 JSR SETREGS
1160 LDA #$30
1170 STA $D1A7
1180 LDY #$00
1190 LP2 LDA $D1A7
1200 AND #$80
1210 BNE LP2
1220 WRTLPLDA $D1A7
1230 AND #$08
1240 BEQ WRTLPL
1250 LDA ($32),Y
1260 STA $D1A0
1270 INY
1280 BNE WRTLPL
1290 BEQ CLRSTATUS
1300 ;
1310 SETREGS
1320 LDA $0304
1330 STA $0032
1340 LDA $0305
1350 STA $0033
1360 LDA $030A
1370 AND #$0F
1380 CLC
1390 ADC #$01
1400 STA $D1A3
1410 LDA $030A
1420 AND #$F0
1430 LSR A
1440 LSR A
1450 LSR A
1460 LSR A
1470 ORA #$A0
1480 STA $D1A6
1490 LDA $030B
1500 ORA $D700
1510 STA $D1A4
1520 LDA #$01
1530 STA $D1A2
1540 RTS
1550 ;
1560 END

```


OUR 8-BIT DISKS

by Bob Scholar SLCC 8-bit Software Chairman

SLCC1107 - July 1993

General Comments

All text and *.DOC files on this disk are in "40" column (actually 37 column) format, - ready to be printed with PRINTSTAR.

D.O.M. Summary

There are eleven main programs on this D.O.M. Four are Games; five are UTILities; one is a DEMO; and one is an information text file which could be considered as Tutorial or EDUC.

Contents - Disk #1107:

FRONT:-

AATPQIK.REF- an update of a UTILITY (TP on-line help file) & DOC.
ADVNTISL.BAS- Game (Text ADventure)
-has no separate DOC.
AUTOGO.BAS- UTILITY; ARS maker.
BASBATTL.TXT (Battle of the BASICS)
Discusses and compares BASICS.
CHARXFER.BAS- UTIL. to transfer and edit characters and fonts.
GUARDIAN.BAS Game (Text ADventure)

BACK:-

DIZZYDEM.BAS- two DEMOs in one;- in BASIC and M/L. From T.W.A.U.G.
NUMBERS.BAS- UTILITY?;- numerology.
PRNTTOOL.BAS UTILITY to print out ATASCII files w/GRaphics char.
VALIANT.BAS-Game (Txt/ADV/maze) for one player with JoyStick.
ZONEX.BAS classic logic puzzle on a grid- deceptively simple looking!

Program Details

AATPQIK.REF is an update of the ON-LINE help file for TEXTPRO, - first used on our 2/91 disks #0902A thru D. The DOC file (TPQIKREF.DOC) explains how to reach it from TEXTPRO's editor with just a few keystrokes. The items in the table had to be abbreviated to the point of being cryptic; but a few checkouts will make them clear. For

best results, use the same filename & DO NOT lock the file!

ADVNTISL.BAS (Adventure Island) by Robert Lee, is from ANTIC's 11/84 issue. It's both fantasy role-playing and text adventure. Discovering your identity is your objective. When you start you don't know who or where you are. You have a strange power- every time you use it there's a loud noise! You'd like to move around and explore the area, but there are monsters all over it trying to kill you! The game uses a number of commands;- press the [RETURN] key to see them. Command "F" unleashes your secret power!

AUTOGO.BAS- Util. by Carl Evans, is from ANTIC, April 1988. It creates AUTORUN.SYS files. It's Very easy to use (see also ARSMaker- disk #0912).

BASBATTL.TXT by Tom Hunt is from OHAUG's 5,6/93 newsletter disk. It's a discussion of several Atari BASICS, but, unlike many such comparisons, it includes many specific details, and a set of benchmark speed runs. It also compares two compiled BASICS. Turbo BASIC appears to be the clear winner in both categories.

CHARXFER.BAS is a Utility by Jim & Jenny Bowles, from ANALOG #61 (June 1988). It's an accessory for CREATE-A-FONT from ANALOG #16. It allows you to move characters or blocks of characters between fonts conveniently. It works with many font editors. It is reasonably self explanatory.

DIZZYDEM.BAS- RUN this to load 2 DEMOs (DIZZYDEM.BAS and DIGIDEM.OBJ). These are from a disk of some English users- the Tyne & Wear Atari U.G. (or T.W.A.U.G.). The first (in BASIC- by Jean Rowe- from OHAUG) is a Music and GRaphics DEMO called 'Dizzy Fingers'. When its over, it runs an M/L program called DIGIDEM.OBJ by John E. of AURA (TEBSF) with a scrolling message, and

a (simultaneous?) digitized voice and music section. The words are probably English, but I can't make them out!

GUARDIAN.BAS is a Text ADventure by Mark Stinson & Paul Hampshire from the same T.W.A.U.G. disk as above. To play it;- Run INFO.BAS. It has a DOC file- GUARDIAN.DOC which you can read with the "T" function of our menu. It is dated 1992.

NUMBERS.BAS by Clifton Oyamoto, a numerology program, is from the ANTIC issue for 12/89,1/90. If you believe that numerology is like mathematical astrology; just consider this program for its entertainment value. It asks for your Name (no items like Jr.) and Date of birth (example:- 9/18/1913).

PRNTTOOL.BAS is a UTIL. (& DOC) by Charles F. Johnson which seems to be a follow-up (update?) of his fine printout program called "G:" (on SLCC disk #0906). It's for Epson or Gemini printers. The DOC is super! I found them on the OHAUG disk for 5,6/93. It is in BASIC and it prints out ATASCII files with all special characters.

VALIANT.BAS by Jamie Sutherland is a fast-scrolling maze adventure by the author of 'Arena Racer' (see SLCC #1102). It's for one player with J/S; -from ANTIC of August 1985. The magazine article is worth looking up- if you want to alter the display, or use it in other programs. Your objective is to find the Golden Sword, to avoid the Invisible Ghouls and discover the Hero's Exit. You can only move Down, Up, Left & Right. You collect points for each treasure taken. Your final score is based on treasures taken and the number of Strength Points left.

ZONEX.BAS;- from ABACUS disk #1; is a logic puzzle (Game) on a grid. I have found it to be deceptively easy, in appearance, but a real toughie to play. It's self explanatory.

PRINT-TOOL TEXT

From SLCC D.O.M. #1107 - July 1993

<><><
PRINT TOOL 9.0

A multi-purpose printer utility
For Epson or Gemini printers.
Program and text by:
Charles F. Johnson
CIS # 75066,404

From The OHAUG (OL'HACKERS ATARI
USER GROUP) 5,6/93 Newsletter.

See also:
PRNTTOOL.DOC on SLCC D.O.M. #1107

PRINT TOOL 9.0 is a program, in BASIC, that will let you print out any ATASCII text file with its CTRL graphics characters and all the other special ATARI characters just as they appear on screen. It lets you use any character set that you wish (as long as it is stored in the standard 9-sector form used by most character editor programs), and will also print the date, author, and a nice boxed title at the printout beginning. This program is especially good for files that have been printed to disk, with PAPERCLIP or SPEEDSCRIPT (TEXTPRO and ATARI-WRITER+ also allow "printing to disk"- R.R.S.). PRINT TOOL also lets you print out a directory listing in 2, 4, or 6 columns, or enter a line of text to be printed at any point.

Three sizes of text are available. All use the entire ATARI font or any alternate font you wish. You may also choose between any of 3 line spacing settings.

PRINT TOOL is designed for Epson or Star Micronics (Gemini) printers.

USING PRINT TOOL:-

When you run PRINT TOOL, the first thing you see is the OPTION MENU. Below it are several lines which will hold pertinent information as you use the program. The menu selections are:

1...Disk Directory.

This command will display the directory of drive one or two in a double column format, and then ask for a filename to print. If you want to print a text file from that disk just enter its name, with no D: specifier. If you're just looking at the directory or the file you want to print isn't on that disk, hit RETURN and you will go back to the OPTION MENU.

2...Print Directory.

This will print the directory of drive one or two in the currently selected print mode (see change Print Mode).

3...Load Character Set.

This command enables you to load a character set file from drive one or two. The new character set will then be used during any printing as well as displayed on screen. This option also allows you to return to the default Atari font.

4...Type a Line.

You may enter a line of text (up to 3 physical lines) to be printed in the current print mode and character set. Any characters may be used.

5...Enter Filename.

This option lets you enter the name of an ATASCII text file to be printed. If you want to print out a BASIC program with all of its special characters, you should first LIST it to disk and then use PRINT TOOL to print the LISTed file. A SAVED BASIC program is in a tokenized form, so if you try to print that, you're bound to have problems. Some word processors will allow you to print text to a disk file, which can then be printed with PRINT TOOL (say, with a nice redefined font).

6...Enter Title.

Lets you enter a title for the file

you wish to print. The title will be printed with a border around it, at the top of the listing.

7...Enter Author.

Lets you give yourself (or whoever) credit at the top of your printout.

8...Enter Date.

The date will be printed on the same line as the filename and author information.

9...Change Print Mode.

This option allows you to set character size and line spacing. The character size will determine how many columns are used when you print a directory listing; 2, 4, or 6.

0...Print File.

This is where you go after you have everything set up the way you want it. If you haven't already entered a filename to print, you will be asked for one. If you just press RETURN you will exit to the OPTION MENU.

The lines beneath the Option Menu display print size and line spacing, the name of the file you have chosen to print, and whatever data you have entered for Title, Author, and Date.

PRINT TOOL sets your printer's "skip over perforation" feature so that you'll have nice, separate pages in a long listing.

I've found this program to be very useful --- I'm sure you will too.

Address comments via Compuserve to:

Charles F. Johnson 75066,404.

<><>end<><

EASY ON-LINE HELP FOR TEXTPRO

By Bob Scholar

(See AATPQIK.REF on SLCC No.1107)

TEXTPRO (v. 4.56) is on the four February '91 SLCC disks, numbers 0902A, B, C, & D. One of the added files on those disks is TPQK.REF; which is a single page "Quick Reference" of TP commands (since TP does not include an on-screen HELP file). TPQK.REF was intended for use as a hard-copy printout reference. I soon found myself using it, most of the time, as an on-screen reminder; so I modified and abbreviated it to be more convenient for that purpose. The 'box' below incorporates this version, with minor adjustments for printing a copy with ATARIWRITER+. I use it for this because it works especially well for setting up tabulations and 'sidebars'. It gives you a text window (5 to 249 columns) which scrolls across the screen as necessary to show 40 columns. The only other Word Processor, that does so, to my knowledge, is PAPERCLIP. TP lets you adjust the columns, but if it can have more than a 40 column screen width I just have not found out how to make it do that!

Items which are shown INVERSED (highlighted) on the screen display will be UNDERLINED in printout. I also added a space between the columns of commands in the printed table, to make it easier to read.

Explaining how to call up and use this Help file is much more complicated than actually using it. TP uses a 'MENU' which is accessed from the TP Editor by pressing [CTRL][M]. It presents a Directory; and a selection of DOS and other functions. If you named this file AATPQIK.REF, it should appear at the top of the list with the bar cursor resting on it. If you then press [V] (for View) it will scroll onto the screen! That's all there is to it! You must be sure, however, that (1) TP is configured for alphabetical Directory sort (the default); & (2) AATPQIK.REF is not locked (or it will be placed near the end of the list).

Obviously, the items in the reference table have been drastically abbreviated. The intent is to provide a quick reminder (or reference) - not a tutorial. TEXTPRO users can decipher them easily, or know where to check them out.

In case you don't already know this; TEXTPRO's version 5.0 is now complete and the DOCs are being updated. The improvements in the macro functions are better than ver. 4.56, but compatible in most respects.

AATPQIK.REF= TP Editing Command Help/Ref.

^=CTRL &=Shift \$=SEL %=toggle ,=or

^H Crsr Top	^E Crsr End	^ Arrow Move
^Q <-of Line	^Z ->of Line	^I Sent. Left
^J Sent. Rt	&+ Word Left	&* Word Right
&- Para Up	&= Para Down	^A Case % +Sp
^I Insrt%Rpl	^L Load File	\$^L Ld Conf F
^N Fst Rpt %	\$^N Ky Clk %	^O False Sp %
\$^O Rtns %	^P Print	\$^D App 2 Buf
^K Clr Bufr	^Caps Comd %	\$<, ^< Erase T
^D Del->SWPF	^R Rstor Txt	^U Memry;Crsr
\$^U Del Up	\$^V Del Down	^W Cursr Posn
^M Menu	^Y Wrđ wrp %	^? Word count
\$^ _ , = Color	\$^? Txt Lum	\$^Z Sceen On
\$^X Scrn Off	\$^C Sel Chg\$	\$^F Sel Find\$
^C Change \$	^F Find \$	^G Globl Repl
^X exit->DOS	\$^S Sv Cnf F	\$^T Scrn Fnts
^Tab +5 Spcs	&> +255 Spcs	&Del Del Spcs
^J DFLT Parm	^I Macro %	\$^B use Bankd
\$[] Inverse	FUJI Txt%ATA	^B Sw Ext Bnk
&Tab set TAB	^i CR,LF,ESC	^V Ld MACRO F
^S, \$^Q Save File(+ Spc, \$P= same Filename)		
^L + *.*,D [Return] = List Directory.		

BATTLE OF THE BASICS

Excerpted from SLCC D.O.M. #1107 - July 1993

The Battle of The BASICS
(C) 1992 By Tom Hunt
Excerpted from the Reprint in the
OL'HACKERS A.U.G. 5,6/93 Newsletter

There are lots of languages for the Atari 800/XL/E: - C, Action!, Logo Pascal, Pilot, Assembly, & AVUE. But BASIC remains popular, even today.

BASICs come in two major flavors. The first being the interpretive type, and the second being the type that compiles the BASIC source program. For those of you who are unfamiliar with these terms, an interpreter gets a chunk of tokenized program, and interprets it, one chunk at a time. Almost like a human language interpreter, it must translate the source code into something the computer's CPU can understand. And more importantly, it does this while your program is running! A compiler, on the other hand, will translate your BASIC program into something your computer's CPU can understand; called machine language. It does this once, and saves the compiled BASIC program out to disk, usually with a ".COM" or ".OBJ" file extension.

The BASICs reviewed here are:

Interpreters:

Atari BASIC Revision C BASIC XE
Turbo BASIC XL 1.4 CTH FastBASIC 2.0
Turbo BASIC 3.2q

Compilers:

MMG Compiler Turbo BASIC XL

In this article I will attempt to touch upon several of the most popular BASIC language programs, and briefly describe what I feel are each one's strong points. I will also be describing how each of them performed in a simple benchmark program I made. First, about the benchmark program.

The benchmark program I made was no scientific marvel. It made no attempt to measure variables which are pretty alien to most BASIC users. Instead, my program accesses certain

functions of BASIC, which your own programs would most likely be using. The program also measured how long it took each BASIC to perform a GOSUB loop, and a FOR/TO/NEXT loop. Here's a list of the functions and tests which my benchmark program used:

LOOP TEST, 500 ITERATIONS
GOSUB TEST, 400 ITERATIONS
SIN(X) TEST, 50 ITERATIONS
COS(X) TEST, 100 ITERATIONS
SQR(X) TEST, 30 ITERATIONS
ATN(X) TEST, 30 ITERATIONS
2^X TEST, 30 ITERATIONS
X/.2 TEST, 200 ITERATIONS

The benchmark program used the real-time clock inside my 800XL to time how long it took for each BASIC to perform each test, along with the amount of time to run all the tests together. The total time to run all the tests is interesting, because since the results of each test were printed out to the screen, it indicates how efficient each BASIC's print-to-screen routine is. The following table shows the average total time used by each Basic to run through the entire benchmark program. The time recorded is in jiffies, or 60ths of a second.

Average Total Time Test For
 INTERPRETED BASICs

BASIC USED: ATARI: BASIC XE: CTHFB:
(time): 1889: 455: 778:
=====

	1 TB XL	1 TB 3.2Q
	1 364	1 364

=====

Average Total Time Test For
 COMPILED BASICs

COMPILER USED: MMG : TB XL:
(time): 1416: 300:
=====

Now for a brief examination of how each interpreted BASIC performed.

BATTLE OF THE BASICS (page 2)

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ATARI BASIC

The version used was revision C. Results shouldn't differ if run on B. Atari BASIC came in last in the test. Didn't surprise you, did it? However, I don't want to "beat up" on good old Atari BASIC too much. You must remember when it was designed, and that it fits into 8k of memory!

BASIC XE

Originally from OSS, it has many fine features which weren't accessed by the benchmark program. One of them is that it can use banked ram beyond 64k. For running the benchmark program, it had all extensions loaded in, and FAST was set to ON. It finished second.

CTH FASTBASIC

This is a shareware BASIC, sold by my company, CTH Enterprises. It came in third. It features a built-in screen accelerator, and a built-in fast floating point math package. It should be noted that the numerical results printed out as the result of each individual test varied from the other BASICs. This is because of the custom fast floating point package. It is more accurate than any of the other BASICs tested.

TURBO BASIC XL, and TURBO BASIC 3.2q

These two BASICs tied for first place! Turbo BASIC XL will only run on XL/E computers. It uses the RAM that is underneath the operating system ROM, in the \$C000 through \$FFFF address area. Unfortunately, Sparta DOS 3.2d also wants to use this area for itself, making Turbo BASIC XL incompatible with it.

Turbo BASIC 3.2q is a variation of Turbo BASIC 400/800, originally written for the old Atari 400's and 800's. The 3.2q version was made so that it is fully compatible with Sparta DOS 3.2d. It supports all the same functions that Turbo BASIC XL has, except for the BRUN and BLOAD functions. However, these can be easily done with XIO's.

Now for the compiled BASICs:

MMG COMPILER

When program compilation starts you have the option of including either the integer or the floating point math package into your program. Integer math is much faster than floating point math. However, integer math cannot handle functions that require a floating decimal point, such as many of the individual tests within the benchmark program require. To be fair, if I had made a benchmark program based upon integer math, and had included the integer math package into the compiled code, the MMG compiled BASIC program would have fared much better. But in real world programs, floating point math is used more often than integer math. That's why I included floating point math functions in the benchmark program.

One of the big advantages of using the MMG compiler, is that it produces object code which will run under any DOS. Another advantage is if you actually DO have a program which only uses integer math. You can include the integer math package into your compiled code, producing a very fast running program.

TURBO BASIC XL

This is the winner in the compiler category. It came in at a blazing 300 jiffies for the average run time of the entire benchmark program. There is one major detraction from this (otherwise excellent) compiler. Neither the compiler, or the compiled code it produces, will run under Sparta DOS 3.2d. It functions just fine under Sparta DOS X, MYDOS, and Atari DOSs 2.0/2.5.

So, which BASIC is the best? It depends upon what you want to do. I'm sure that it is fairly obvious that each BASIC has its strong points, and weaknesses. But for all out speed, Turbo BASIC wins, hands down!

To download the benchmark program:-
Closer To Home BBS- 419-368-4413
24 Hours/7 Days- 300/1200/2400

Civilization comes to Atari!

By: Travis Guy

GEnie: AEO.MAG Delphi: AEO_MAG

MicroProse has long been noted for its excellent line of computer simulations; quality I can personally attest to, having spent many a sleepless night engrossed in a MicroProse world. Over the years, they built upon their wargame line (by far, some of the best microcomputer wargames), and branched out into competitive economic simulations (Railroad Tycoon), culminating in what may be their biggest and best yet: Civilization, a simulation of Human History.

Civilization takes the best from two classic computer games, Seven Cities of Gold and Empire, and forges an addictive, thoroughly enjoyable game - one of the best I've played in years! You start out by creating the world you will play on. Here, several variables may be altered: land mass size, age of the planet, a wet or dry biosphere. If you'd rather stick to the old stomping ground, the Earth is available as a default.

Next, you choose the difficulty level, pick your tribe's name (and your own) and the number of computer opponents you'll face. (Civilization is a one-human player

game.) Your tribe is given some basic knowledge (really basic - like how to build roads and irrigate land, and if you're lucky, how to make pottery or work bronze!), and then dropped somewhere onto the face of your world, with one or two bands of settlers, in the year 4000 B.C.

Your first obstacle is to find some suitable terrain to support your first city. Every map square is rated for: Food, Production Resource, and Trade Values, Movement Point Costs, and Defensive Bonuses, so you have to find the right spot to provide enough nearby raw material to allow you to quickly grow. As the map is blank to begin with (you have a one square radius Zone of Influence), you have to explore to find what you need. Shades of Seven Cities, you'll often run across "goodies" - villages that may contain Civilization Advances, gold pieces, friendly folk who may join your military (or who may incorporate into your civ as a city)... or hostile barbarians you'll have to fight off.

The terrain is littered with various goodies (Gems, Gold, Coal, Oil, Wild Game, Horses) that can enhance its value in one way or another. Food is needed to sustain current

population and an excess of food will go to increasing a city's population. Production Resources are needed to build a city's infrastructure (granaries, temples, nuclear power plants), military units, and Wonders of the World. A square's Trade value can be translated into Luxuries (keeps the people happy), Tax Revenues (pays the bills), and... ahh... Lightbulbs (well, it's what the screen shows - it's really a way to measure CivAdvance Research - Civilization Tip #1: learn Bronze Working quickly or die).

But don't get too involved yet - you still have to get your first city going, because other civs will settle and begin to rise quickly. In my first game, I took so long (hundreds of years in fact!) wandering around, that before I settled my first city, I noticed that other civs had begun to build armies! (That game ended quickly, and ignominiously.)

Once you have established a city, your next task is to build military units that can defend it. After that, your decisions are up to you. Build infrastructure or build new settler units to make the area around your city more productive? Or maybe you want to start another city. Or maybe you'll find yourself in

a life-and-death struggle with a neighboring civ where military units are all important.

If your civ is successful in surviving past the first thousand years or so, you'll need to start planning for the long haul. How to do that is best determined by the situation you find yourself in. With a lot of large, aggressive neighbors, you should plan for a war economy; if you find yourself alone, with "land, lots of land, under starry skies above...", you can adopt a technology-based economy.

You have advisors and on-line help to assist you in deciding what to produce. Automatic advice can be turned on and off (I suggest you leave it off - see the Bugs section below), and a right mouse button click on any item in a menu will call up encyclopedia screens. Civilization Tip #2: Don't overlook the value of some Wonders of the World, from ancient (the Hanging Gardens, Pharos, Pyramids) to modern (Apollo & Manhattan Projects, Cure for Cancer).

You will have to balance your peoples' welfare with their protection, always with an eye on their happiness. If the ratio of happy to unhappy people in a city gets out of balance, the city will go into civil unrest. Production in that city will stop, taxes can't be collected, and no research can be conducted. (The manual warns that

any nuclear power plants operating under civil unrest can suffer a meltdown.)

As time goes by, and your civ's knowledge grows, you can take advantage of different forms of government: Despotism, Monarchy, Communism, Republicanism, and Democracy. Each type offers advantages - typically, the more advanced the government, the greater the economic advantages, but ever-so-slight shackles are placed on military deployments.

Whichever route you take, one other rule is to never overlook defenses! Barbarians, local guerillas, and aggressive civs on other continents with well developed navies can always pop up to harass you. You should develop a good network of roads, rail and fast response military units to quell any uprising.

The other civilizations you will encounter are drawn from history, and are lead by historical leaders. Napoleon likes to conquer; Stalin expands quickly, but may not devote enough time and resources to develop his cities. Hammurabi, Gandhi and Mao look to build a strong civilization, and typically aren't aggressive. The dozen or so civilizations that can be thrown in the mix help make each game a challenge.

//// The End of Time

Civilization, the game, continues until you die, until you have conquered all other civs, or until time runs out - you can play until well into the 21st century A.D.. Another way to win (the preferred method) is to gain enough knowledge (and enough production capacity, and enough Peace on Earth) to build a starship to be the first civ to put colonists on Alpha Centauri.

Civilization is green, something I like. One of the drawbacks in achieving a totally modern civ is the generation of pollution. How best to combat the pollution is left up to you - build Mass Transit, Recycling Centers, Hydro & Nuclear Power (the manual says to watch out for Civil Unrest around a Nuclear Plant, though!), or clean-up crews. Too much pollution in the world (by itself, or combined with the effects of nuclear weapon usage) will create global warming - altering the planet's biosphere. Food production will slow, and your people will start to die off.

You can alter the difficulty level of the computer opponents at the beginning of each game. I've managed to win at all levels, and in all ways (though I haven't even started building on an Emperor-level starship yet), and even after weeks of "Is THAT what time it is!?" playing, Civilization keeps drawing me back for more.

//// Uh-ohs

Civilization isn't perfect. There have been many reports of bugs resulting in random crashings in the Atari version, but with careful planning (i.e., don't use the instant advisors, and don't let too many cities go into civil unrest) you can enjoy the game. I play Civilization on my TT030, and aside from some "mouse droppings" and what appears to be a mixed-up final "Hall of the Conquered" screen, I have very few problems with the game:

- You can save up to 10 game positions, but the menu that asks for the drive you want to save to/load from always sends you to the directory you run the game from.
- Upon exiting Civilization (either by retiring or by using the "Quit to DOS" (!) option) the screen colors on my machine do not return to my defaults, and the keyclick response and repeat settings are altered.
- There is a file on Disk 3 (or Disk C) named SLAM2.LBM that apparently needs to be renamed SLAM2.BBM. Elseways, if you win a game by conquering all other civs, the machine crashes. I encountered this, I renamed my work SLAM2 file, and ever since, no crashes.
- On my TT030, the "Replay" offered

at the end of a game runs by too fast to be of much use. dB^)

- You may use the mouse or an extensive suite of keyboard commands to carry out your orders onscreen, which is great. What isn't is that Civilization uses its own non-GEM menu interface, and doesn't appear to be MultiTOS friendly.

And for those of you who have heard of the "Super Settler" cheat on other platforms - yes, it works in the Atari version. (EMail my online addresses and I'll share how the cheat works.)

//// What Civilization Provides

Civilization comes on 4 DSDD non-copy protected diskettes. An install program will let you easily install Civilization on a hard drive - which is highly recommended. (2.2 megs of filespace is needed to install on a hard drive.) A 16 page Atari manual, along with a generic 128 page manual (with background notes, designer's notes, and lots of text to flesh out the mechanics) continue the long line of quality MicroProse documentation.

//// Summary

Civilization is a true "guns and butter" simulation. A "god game" without any mystical, magical overtones (except that you "live" for 6000 years!). All of the elements the designers sought to bring

together gel quite nicely, and they create a totally believable world here. MicroProse U.K. is working on a fix for the problems in the current version - I say Civilization is worth owning now, despite the few known bugs, and when the fix arrives, I see no reason not to buy this classic!

Sid Meier's Civilization by
MicroProse U.K.

Graphics: Good

Sound: Good

Documentation: MicroProse (that means excellent!)

Gameplay: Highly Addictive

Overall: First Rate

Requires: Atari ST, STe, TT030 (not fully tested on a Falcon030) with 1 Mb of RAM and a color monitor. Hard drive recommended, but not required.

The review copy of this game was kindly provided to AEO by a proud Atari-only dealer, Steve Kipker of

STeve's Software Sales
5 West Street
Woodland, CA 95695
Info: 916-661-3328
GENie: S.KIPKER
Delphi: ATARISALES

Alphabetical Games Listing
ST Format-Jan. 1992-March 1993
ST User-May 1992-March 1993

<u>Game Title</u>	<u>Publisher</u>	<u>ST Format</u>	<u>ST User</u>	<u>Average</u>
AV-8B Harrier Assault	Domark	0	65	33
Action Pack	Action 16	56	0	28
Addams Family	Ocean	74	98	83
Advantage Tennis	Infogrames	79	0	40
Air Bucks	Impressions	65	0	33
Air Support	Psygnosis	0	23	12
Airbus A320	79	0	40	
Alcatraz	Infogrames	54	75	65
Amberstar	thalion	73	75	74
Anarchy	Sizzlers	0	60	30
Another World	US Gold	93	0	47
Archer Maclean's Pool	Virgin	95	91	93
Arkanoïd-Revenge of Doh	Imagine	0	91	46
Around the World	Floppy Shop	15	0	8
Award Winners		90	0	45
BSS Jane Seymour	GBH	70	0	35
Baby Jo	Loriciel/Info	79	0	40
Barbarian 2	Psygnosis	74	0	37
Bat 2	UBI Soft	91	0	46
Battle Hawks	KIXX	0	75	38
Beast Busters	Activision	64	0	32
Beaujolly Big Box 2	Beaujolly	61	0	31
Big Run	Storm	0	20	10
Bignose the Caveman	Codemasters	78	0	39
Bonanza Brothers	US Gold	72	0	36
Booly	Loriciel	34	0	17
Brides of Dracula	gonzo games	49	0	25
Bubble Bobble	Hit squad	0	91	46
Bubble Dizzy	Codemasters	58	0	29
Bunny Bricks	Daze	25	0	13
Caesar	Impressions	84	55	70
Campaign	Empire	20	87	54
Capcom Collection, The	US Gold	54	0	27
Captain Dynamo	Code Masters	76	80	78
Captain Planet	Mindscape	61	0	31
Carl Lewis Challenge	Psygnosis	50	25	38
Cartoon Collection	Code Masters	64	73	69
Castle Master	Hit Squad	0	90	45
Castles	Electronic Ar	63	0	32
Champions	Krisalis	62	0	31
Chart Attack	Gremlin	83	0	42
Cisco heat	Imageworks	72	0	36
Combo Racer	GBH	61	85	73
Cool Croc twins	Empire	61	0	31
Cool World	Ocean	0	76	38
Crack Down	Kixx	0	30	15
Crazy Cars 2	Titus	20	0	10
Crazy Cars 3	Titus	85	79	82
Creatures	Thalmus	0	85	43
Crime City	If..	62	40	51
Crime Time	Starbyte Soft	67	0	34
Crystal Kingdom Dizzy	Code Masters	0	85	43
Cyber Assault	Trojan	68	0	34
D/Generation	Mindscape	75	83	79

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Daleck Attack	Admiral Softw	43	83	63
Damocles	Novagen	94	0	47
Deathbringer	Empire	72	0	36
Defender 2	Arc	88	0	44
Deuteros	Activision	83	0	42
Devious Designs	Imageworks	61	0	31
Disciples of Steel	Megasoft	79	0	40
Discovery-The Steps of Col	Impressions	55	0	28
Dizzy Collection. The	Codemasters	71	0	36
Dizzy's Excellent Adventur	Codemasters	82	90	86
Dizzy, Prince of the Yolkfo	Codemasters	78	0	39
Doodle Bug	Core Design	0	83	42
Double Dragon 2	16 Blitz	52	0	26
Dr. Fox's 1992 Football an	Dr. Fox	70	0	35
Dragon's Lair 3	Readysoft	31	41	36
Dreadnoughts	Turcan Resear	79	0	40
Dream Team	Ocean	64	0	32
Dungeon Master Double Pack	Psygnosis	92	0	46
Dyna Blaster	UBI Soft	92	0	46
Elf	Ocean	89	0	45
Elvira	Flair	79	77	78
Elvira 2	Accolade	91	92	92
Emlyn Hughes Int'l Soccer	Touchdown	90	0	45
Epic	Ocean	91	69	80
Erik	Atlantis	0	35	18
Espana-The games '92	Ocean	40	0	20
F-16 Combat Pilot	Action 16	0	93	47
F-19 Stealth Fighter	Microprose	96	0	48
Falcon 1.2	Action 16	70	93	82
Fantasy World Dizzy	Codemasters	72	0	36
Fascination	Digital Integ	78	20	49
Fighter Command	Impressions	71	0	36
Final Command	Action 16	78	12	45
Fire and Ice	Renegade	94	78	86
Fireforce	Ice	0	82	41
Firestar	trojan	55	0	28
First Division Manager	Codemasters	67	0	34
First Samurai	Imageworks	79	0	40
Five Intelligent Strategy	Oxford Softwo	54	0	27
Flight of the Intruder	Digital Integ	90	0	45
Football Champ	Simulmondo	0	30	15
Formula One Grand Prix	Microprose	81	0	41
Fort Apache	Impressions	68	0	34
Four Wheel Drive	Gremlin	81	0	41
G-Loc	US Gold	35	0	18
GEM'X	DMI	64	0	32
Gauntlet 3	US Gold	48	0	24
Ghouls 'n' Ghosts	Kixx	44	0	22
Goblins	Dream Factory	87	83	85
Goblins 2	Coktel Vision	88	85	87
Godfather, The	US Gold	62	0	31
Golden Eagle	Loriciel	61	43	52
Grandslam Collection	Grandslam	45	0	23
Great Napoleonic Battles	Impressions	43	0	22

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Guardians	Loricel/Info	71	0	36
Hard Nova	Electronic Ar	62	0	31
Harlequin	Gremlin	79	92	86
Heimdall	Core Design	78	0	39
Hook	Ocean	79	71	75
Horror Zombies from the Crypt	GBH	0	32	16
Hot Rubber	Palace SoftWare	0	43	22
Immortal, The	Electronic Arts	77	0	39
Indiana Jones & the Fate o	Lucasarts	0	33	17
Indiana Jones & the Last C	Kixx	38	0	19
Indy Heat	Storm	0	80	40
International 3D Tennis	GBH	66	30	48
International Sports Chall	Empire	43	81	62
Ishar-Legend of the Fortre		90	0	45
Italy 1990	Kixx	52	0	26
Jahangir Khan World champi	GBH	72	0	36
James Pond	GBH	82	91	87
James Pond 2-Codename Robo	Millenium	86	0	43
Jimmy White's Whirlwind Sn	Virgin	94	90	92
Jupiter's Masterdrive	Action 16	62	0	31
Kids Pack	Alternative S	60	0	30
Killing Game Show, The	Psygnosis	90	0	45
Knight Force	Titus	12	0	6
Knightmare	Mindscape	77	0	39
Knights of the Sky	Microprose	91	0	46
Kwik Snax	Codemasters	79	70	75
LLamatron	Llamasoft	95	0	48
Last Ninja 3		72	0	36
Leander	Psygnosis	68	0	34
Leeds united Champions	CDS	61	0	31
Legend	Mindscape	89	78	84
Lemmings Double Pack	Psygnosis	75	0	38
Lemmings, Oh No! More	Psygnosis	82	0	41
Lethal Weapon	Ocean	62	82	72
Liverpool	Grandslam	74	70	72
Loom	Lucasfilm	81	0	41
Lotus 3	Gremlin	75	84	80
Lotus Turbo Challenge 2	Gremlin	77	0	39
Lure of the Temptress	Virgin	92	92	92
Magic Fly	Electronic Ar	84	0	42
Magic Pockets	Renegade	90	0	45
Magic Worlds	Daze	91	0	46
Magnetic Scrolls Collectio	Magnetic Scro	81	0	41
Manchester United	GBH Gold	0	65	33
Manix	GBH	59	0	30
McDonald Land	Virgin	0	81	41
Mega Sports	US Gold	0	61	31
Mega Twins	US Gold	74	0	37
Mercenary 3	Novagen	90	0	45
Microprose Golf	Microprose	95	0	48
Microprose Soccer	Kixx	0	70	35
Midwinter	Kixx XL	0	60	30
Mind Bender	GBH	72	0	36
Mystical	Action 16	73	72	73

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NARC	Hit Squad	0	40	20
Narco Police	Gremlin	70	60	65
Navy Moves	Hit Squad	0	82	41
Nicky Boom	Microids	0	82	41
Nigel Mansell's World Cham	Gremlin	0	70	35
Nightbreed	Hit Squad	0	40	20
Ninja Collection	Ocean	53	0	27
No Second Prize	Thalion	0	90	45
Obitus	Psygnosis	61	0	31
Operation Stealth	US Gold	93	0	47
Operation Thunderbolt	Hit Squad	0	82	41
Ork	Psygnosis	72	0	36
Pacific Islands	Empire	90	90	90
Paladin 2	Impressions	68	70	69
Pang	Hit Squad	0	88	44
Panza Kick Boxing	Kixx	0	91	46
Paragliding	Loriciel	59	0	30
Parasol Stars	Ocean	91	0	46
Plan 9 from Outer Space	Gremlin	62	80	71
Popeye 2	Alternative	63	0	32
Populous	Electronic Arts	88	0	44
Populous 2	Electronic Arts	95	95	95
Potsworth & Co.		68	0	34
Powermonger: WW I edition	Electronic Arts	64	0	32
Premier Manager	Gremlin	85	93	89
Prince of Persia	Hit Squad	90	78	84
Pro Tennis Tour	The HitSquad	0	90	45
Psyborg	Loriciel	46	49	48
Push Over	Red Rat/Ocean	92	92	92
Quattro Fighters		48	0	24
R-Type	Activision	79	0	40
RVF Honda	KIXX	0	90	45
Race drivin'	Domark	63	0	32
Ragnorok	Mirage	0	81	41
Railroad Tycoon	Microprose	93	0	47
Rainbow Islands	Hit Squad	0	94	47
Rampart	Domark	85	70	78
Raving Mad	US Gold	64	0	32
Reach for the Skies	Virgin	0	85	43
Realms	Virgin Games	87	0	44
Renegade	Hit Squad	0	25	13
Resolution 101	GBH	76	0	38
Rick Dangerous	Kixx	90	0	45
Robocop 3	Ocean	94	0	47
Robozone	Imageworks	54	0	27
Rolling Ronny	Virgin Games	76	0	38
Rotox	Action 16	61	0	31
Rubicon	21st Century	64	0	32
Rugby Coach	D & H	32	0	16
Rugby-The World Cup	Domark	76	0	38
Sabre Team	Krisalis	74	0	37
Saint Dragon		78	0	39
Samurai-TWOTW	Impressions	70	45	58
Secret of Monkey Island, The	Lucasfilm	94	0	47

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Sensible Soccer	Renegade	88	0	44
Shadow Warriors	Hit Squad	0	58	29
Shadow Worlds	Krisalis	73	90	82
Shadowlands	Domark	84	92	88
Shoot-'Em-Up Construction	GBH Gold	0	60	30
Shuttle	Virgin	78	97	88
Silent Service 2	Microprose	88	0	44
Sim City	Infogrames	92	0	46
Simpson's: Bart vs Space Mutants	Ocean	74	0	37
Sir Fred	Action 16	79	85	82
Sly Spy	Hit Squad	0	53	27
Smash TV	Ocean	74	0	37
Space Crusade	Gremlin	50	90	70
Space Gun	Ocean	32	0	16
Special Forces	Microprose	73	91	82
Spellbound Dizzy	Codemasters	71	0	36
Spike in Transylvania	Code Masters	49	45	47
Sport's Best	Loricel	72	74	73
Steel Empire	Millennium	71	50	61
Steg the Slug	Code Masters	75	90	83
Steve McQueen Westphaser	Loricel	42	0	21
Storm Master	Silmarils	84	0	42
Street Fighter 2	US"sold	91	68	80
Strike Fleet	Electronic Ar	63	0	32
Striker	D&H Games	79	0	40
Striker Manager	D&H Games	58	0	29
Super All-Stars	Codemasters	65	62	64
Super Space Invaders	Domark	63	0	32
Supercars	GBH Gold	0	80	40
Supercars 2	GBH Gold	84	0	42
Superfighter	Ocean	52	0	26
Superski 2	Microids	68	80	74
Suspicious Cargo	Gremlin	79	0	40
Switchblade	GBH Gold	0	90	45
Switchblade 2	GBH Gold	88	0	44
TNT 2	Domark	44	0	22
Team Suzuki	GBH	0	69	35
The Chaos Engine	Renegade	0	90	45
The Enforcer	Trojan	78	0	39
Thomas the Tank Engine	Alternative S	65	0	33
Thunder Burner	Loricel/Info	53	0	27
Thunderhawk	Core Design	91	0	46
Thunderjaws	Domark	54	0	27
Thunderstrike	GBH	67	0	34
Tiny Skweeks	Loricel	68	0	34
Titanic Blinky	Zeppelin	69	0	35
Titus the Fox	Titus	85	0	43
Top Banna	Hex	48	0	24
Total Recall	Hit Squad	0	50	25
Toyota Celica GT Rally	GBH	65	39	52
Transartica	Daze/Similari	79	0	40
Trivial Pursuit	Hit Squad	0	70	35
Turrican	Kixx	77	0	39
Ultima 6	Mindscape	70	0	35

Alphabetical Games Listing
ST Format-Jan. 1992-March 1993
ST User-May 1992-March 1993

<u>Game Title</u>	<u>Publisher</u>	<u>ST Format</u>	<u>ST User</u>	
Ultimate Golf	GBH Gold	72	70	71
Under Pressure	Electronic Zo	51	0	26
Unreal	UBI Soft	59	0	30
Utopia	Gremlin	90	0	45
Utopia-The New Worlds		64	0	32
Vengeance of Excalibur	Virgin	59	79	69
Venus the Flytrap	GBH	58	90	74
VideoKid	Gremlin	59	75	67
Voodoo Nightmare	GBH	71	38	55
Voyage Beyond Space Crusad	Gremlin	0	85	43
Vroom	UBI Soft	92	0	46
WWF European Rampage	Ocean	18	35	27
WWF Wrestlemania	Ocean	63	0	32
Warriors of Releyne	Impressions	74	38	56
Ween	Digital Integ	79	90	85
Wild Wheels	Ocean	67	0	34
Winter Super Sports '92	Flair	71	0	36
Wizkid	Ocean	92	92	92
Wolfchild	Core Design	61	0	31
Wolfpack	Mirrorsoft	70	0	35
World Championship Boxing	GBH	80	0	40
World Class Rugby-FNE	Audiogenic	73	0	37
Xenon 2	Mirror Image	90	0	45

Moran's Minutes

The final meeting under the soon to be terminated or exterminated President Bob Woolley was called to order at the fashionably late hour of 8:05 PM. All Officers were present or accounted for. (Glenn is still missing along with all our stocks and bonds but we figure he is accounted for as he is probably busy selling everything we own to the highest bidder.)

Visitors and new members were welcomed and properly questioned as to type, age and condition of all their computer possessions. (I think Woolley maintains a list for possible later burglaries)

Bob Scholar our resident Dirty Old Man discussed and demonstrated these months 8 Bit floppy. The disk is pretty evenly split between Games and Utilities. If you need more information check the complete write up in the June Journal.

President Woolley (soon to be plain old whatchacallit) opened nominations for club Officers, one last chance to find some decent nominees. No decent nominees were found so we were stuck with the demented one's already nominated.

Being no further nominees, secret ballots were passed out and the election was on. (Hood was paying as much as \$25 and a 10 pack of disks per vote -- hope you all got yours) While

the election results were being tabulated by the accounting firm of Price Outhouse, the meeting was recessed so all could look at the odd ball stuff that had been brought for the swap meet.

The election results are as follows;

President	--	Jim Hood
V. Pres.	--	Peter Chen
Treasurer	--	Glenn Fowler
Secretary	--	Jim Moran

After all this bad news there was nothing else to be done but have our crooked raffle (run by old whatchacallit) and go home. So we did.

Imprecisely submitted -- *Jim Moran*

PS. Anybody interested in starting up a PC SIG for those among us who have acquired one of those machines that makes nerds into Billionaires? If so lets make the new President get off his duff and set it up.

PS 2. Note the use of large print to fill space -- That's what happens when the President does so little I can't fill up a louse page. -- Maybe I should say that's what happens when the lousy President does so little I can't fill a page. -- *Jim*

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Calendar - July 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6 Main Meeting 8:00 PM San Leandro Public Library	7	8	9	10
11	12 ST SIG 8:00 PM San Leandro Public Library	13	14	15	16	17
18	19	20	21	22	23	24 Journal Deadline
25	26	27	28	29	30	31

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Date: _____

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(Street) (City) (State) (ZIP)

Home Phone: _____
(Optional)

Membership No.

Fill in as much of the following as you wish.

Interests	<input type="checkbox"/> Business	<input type="checkbox"/> Word Processing	<input type="checkbox"/> Education
	<input type="checkbox"/> Hardware	<input type="checkbox"/> Home Finance	<input type="checkbox"/> Games
	<input type="checkbox"/> Music	<input type="checkbox"/> Graphics	<input type="checkbox"/> _____

What kind of computer do you own _____

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